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A New Species of *Paruroctonus* from Coastal California (Scorpiones: Vaejovidae)

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Abstract.—A new species of scorpion from coastal California is described and named *Paruroctonus maritimus* Williams. Its nearest relatives appear to be *Paruroctonus boreus* (Girard) and *Paruroctonus silvestrii* (Borelli).

A few years ago a small series of *Paruroctonus* was collected under cardboard and other surface debris by Roy Johnson, along railroad tracks at Sea Side, Monterey County, California. At the time, this sample posed certain problems of interpretation, although it appeared to be *Paruroctonus boreus* (Girard). Since the collection site was well outside of the known distribution of *P. boreus,* restricted in area, and ecologically disturbed, the identification of this species was tentative. Reinvestigation of these specimens indicates they are not *P. boreus,* but an undescribed new species that appears to inhabit the coastal sand dune community. This new species is here described and named. The measurements cited are as defined by Williams (1980).

Paruroctonus maritimus Williams, New Species
(Fig. 1, Table 1)

Diagnosis.—Members of subgenus *Paruroctonus.* Total length up to 50 mm. base color of exoskeleton pale yellow with contrasting dusky-black marbling dorsally on carapace and mesosoma, dark marbling not extending to posterior margin of mesosomal terga, metasoma with ventral and ventrolateral keels outlined in dusky pigment; frontal margin of carapace convex; pectine teeth 24–27 in males, 18–20 in females; metasoma with ventral keels smooth to obsolete on I, smooth on II–IV, serrate on V; metasoma with ventrolateral keels smooth to granular on I–II, smooth on III, smooth to crenulate on IV; chela with supernumerary denticles 6 on fixed, 7 on movable finger; chela with primary row denticles divided into 6 subrows on fixed finger, 7 subrows on movable finger.

Related to *Paruroctonus boreus* (Girard) and *Paruroctonus silvestrii* (Borelli). Distinguished from *P. silvestrii* by pigment pattern of mesosomal terga not extending to posterior margin of terga, metasoma with 4 pairs of ventral macrosetae on segment II. Differs from *P. boreus* by less distinct proximal gap between fingers of chela in males; slightly fewer pectine teeth; median ocelli more forward on carapace; ratio of carapace length to frontal margin distance less than 2.0; metasoma of males less elongate, metasomal segment IV length to width ratio less than 1.9.

Holotype.—Male. Coloration: Base color of cuticle pale yellow, carapace with black marbling, frontal margin outlined in dusky-black; mesosomal terga with

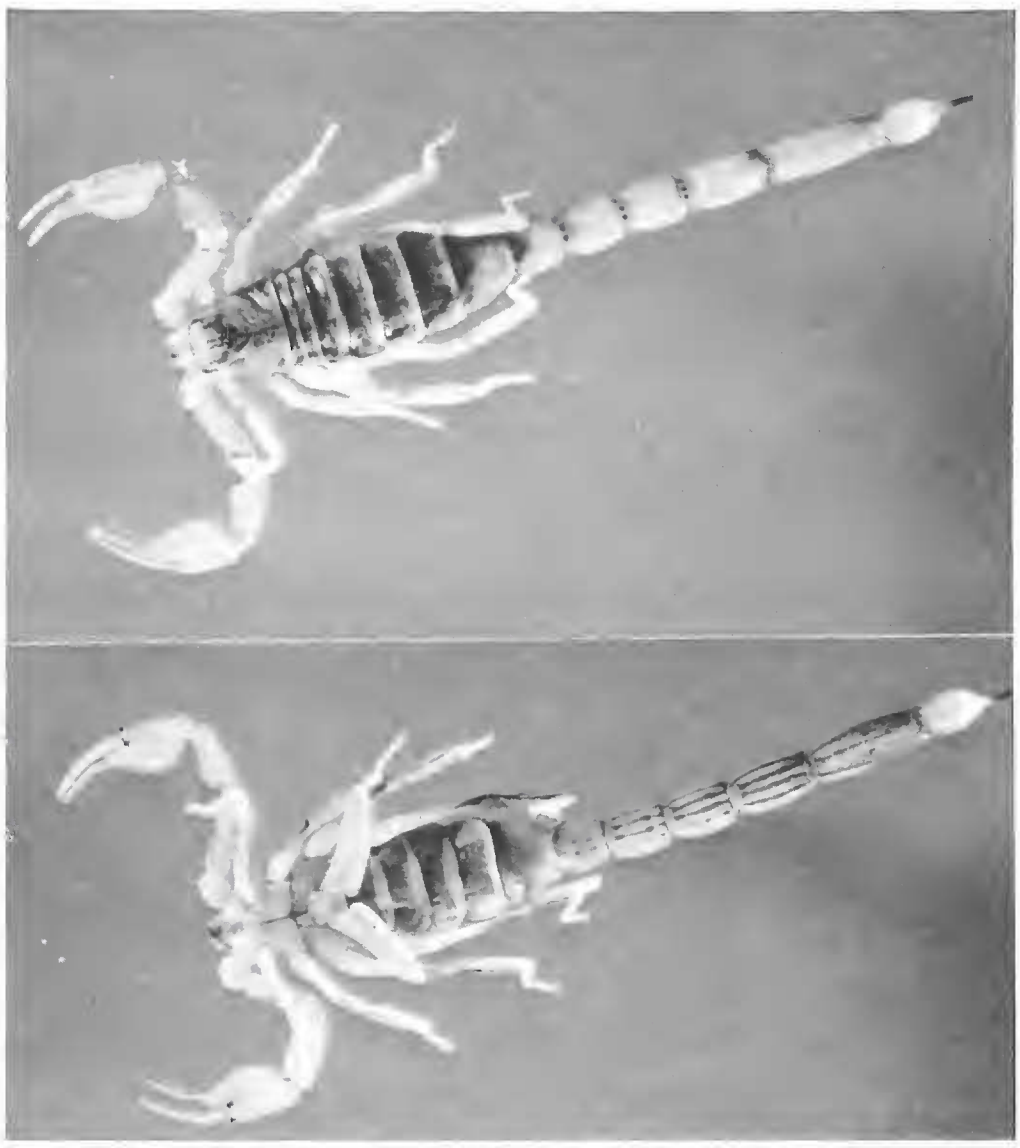

Figure 1. *Paruroctonus maritimus* Williams, holotype, dorsal and ventral views.

underlying dusky black markings, these not extending to posterior margin of terga, dusky markings mostly limited to anterior 1/4 of tergum 7; walking legs with inconspicuous, localized, dusky-black markings prolaterally; brachium, humerus, and chela with inconspicuous underlying dusky-black markings; fingers of chela similar to palm in color; pectines white, mesosomal sterna lacking dark markings; metasoma with ventral and ventrolateral keels outlined in dusky pigment on segments II–V. Prosoma: Carapace frontal margin slightly convex, with 2–3 pairs of macrosetae; lateral ocelli 3 per group, median ocelli on smooth, raised ocular tubercule; sternum elongate pentagonal, 4 pairs of sternal macrosetae, median posterior depression, deep, broad. Mesosoma: Terga finely granular, terga 5–7 with subtle obsolescent median keel, tergum 7 with 2 pairs of granular lateral keels; genital opercula triangular, 10–11 pairs of genital macrosetae, distinct genital papillae; pectine basal sternum with deep median notch on anterior margin; comb with three marginal lamellae, middle lamellae with angular basal piece and 19 subcircular sclerites, fulcra triangular, 4–6 ventral macrosetae per fulcrum; stigma elongate, 3.5 times longer than wide; sterna 2–6 smooth, agranular, sternum 7 with 1 pair of granular submedian keels over one-half of sternum. Metasoma: Dorsal keels granular on I–V; dorsolateral keels granular on I–V; lateral keels granular on I,

Table 1. Measurements (mm) of *Paruroctonus maritimus* Williams, new species, holotype (male) and allotype. Abbreviations as follows: l = length, w = width, d = depth, fmd = frontal margin distance, ditd = distal internal trichobothrium distance, p-row = primary denticle row of chela, ff = fixed finger, mf = movable finger.

	holotype (male)	allotype
Total length	41.0	48.0
Carapace, (l/w at median eyes)	4.6/3.6	5.8/4.5
Diad (width/fmd)	0.95/2.1	1.1/2.7
Metasoma, length	19.0	21.3
Segment I (l/w/d)	2.5/2/7/2.2	2.9/3.2/2.5
Segment II (l/w/d)	3.0/2.6/2.1	3.3/3.1/2.5
Segment III (l/w/d)	3.3/2.5/2.1	3.6/3.0/2.4
Segment IV (l/w/d)	4.2/2.4/2.0	4.5/2.8/2.4
Segment V (l/w/d)	6.0/2.1/1.8	7.0/2.6/2.3
Telson, length	5.4	6.5
Vesicle (l/w/d)	3.3/2.0/1.6	7.0/2.6/2.3
Aculeus (1)	2.1	2.5
Pedipalp, Humerus (l/w)	3.8/1.3	4.8/1.7
Brachium (l/w)	4.2/1.8	5.1/2.3
Chela (1)	7.2	8.6
Palm (l/w/d)	4.1/2.2/2.9	4.8/2.4/3.2
Movable finger (l/base)	4.2/1.05	5.7/1.4
Fixed finger (l/ditd)	3.1/2.7	3.8/3.2
Supernumerary denticles (ff/mf)	6/7	6/7
Fixed finger p-row denticles	5-7-7-9-13-9	6-8-8-10-11-17
Movable finger p-row denticles	1-6-10-10-12-15-7	1-6-9-10-13-15-11
Pectine teeth (left/right)	24/26	18/18
Stigma 3 (l/w)	0.35/0.1	0.4/0.1

granular on posterior 1/4 of II, obsolescent except for 3 posterior granules on III, absent on IV, granular on anterior half of V; ventral lateral keels smooth to granular on I–II, smooth on III, smooth to crenulate on IV, serrate on V; ventral keels smooth to obsolete on I, smooth on II–IV, serrate on V. Telson: Vesicle smooth and lustrous, subtle subaculear tubercule flanked laterally by 1 pair of long reddish macrosetae. Pedipalps: Chela with swollen palms, keels of palm roughly granular; subtle scallop between fingers proximally when fingers closed; supernumerary denticles 6 on fixed finger, 7 on movable finger; primary row denticles divided into 6 subrows on fixed finger, 7 on movable finger by distinctly enlarged denticles; palm with well-developed ventral prolateral and ventral retrolateral granular keels. Chelicerae: Ventral margin of movable finger with 2–3 subtle crenulations, fixed finger lacking apparent denticles or crenulations; ventral surface of movable finger not conspicuously hirsute, with about 6 long ventral macrosetae.

Allotype.—Female. Similar to holotype in color and structure except as follows: Longer in total length; pectines much smaller, shorter, with fewer teeth; no genital papillae; median ocelli slightly smaller; metasomal segments slightly less elongate

(ratio of metasomal length to width 6.7); chela slightly more elongate (ratio of chela length to width 3.6).

Topoparatype variation.—Similar to holotype and allotype except: Total length 21.3–50.0 mm; pectine tooth counts (per comb) 24–27 in juvenile males (mode 26), 18–20 in females (mode 19); juveniles with base color of cuticle whitish, dusky-black marbling more contrasting, more extensive; cheliceral denticles on ventral margins of movable finger more developed, 4–5 crenular denticles; ventral margin of fixed finger with 2 small granular denticles; adults with cheliceral denticles more worn and subtle on movable finger, not apparent on fixed finger.

Type data.—Holotype (male), allotype, California: Monterey County, Seaside, 7 Apr. 1985, Coll. Roy Johnson. Depository: California Academy of Sciences, Entomology Type No. 15791. Named *Paruroctonus maritimus* in reference to its coastal habitat.

Topoparatypes studied.—California: Monterey County, Seaside, 3, 5, 7 Apr., 1985, Coll. Roy Johnson, 21 females, 3 juvenile males.

Remarks.—This species is known only from coastal habitats of central California. In the type locality it was found under surface debris on dry, fine coastal dune sand. Field collections suggest that its preferred habitats may be coastal sand dune communities in this region. It was curious that of the 26 specimens collected all were mature females except one mature male and 3 juvenile males.

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